

# **SODIUM.BISMUTH.TITANIUM.TUNGSTEN OXIDE HAVING INDEFINITE-RATIO PYROCHLORE-TYPE STRUCTURE OF CUBIC SYSTEM AND PRODUCTION THEREOF**

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MATER  
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## **Abstract of JP62230621**

**PURPOSE:** To provide a sodium.bismuth.titanium.tungsten oxide having a specific composition and expected to be useful as an ion-conductive material.

**CONSTITUTION:** A sodium.bismuth.titanium.tungsten oxide having indefinite-ratio pyrochlore-type structure of cubic system and expressed by general formula  $Na_{2x}Bi_2yTi_zO_{x+3y+2z+3u}$  ( $x=0.037-0.047$ ;  $y=0.247-0.260$ ;  $z=0.632-0.653$ ;  $u=0.055-0.070$ ;  $x+y+z+u=1$ ). The oxide can be produced by the following method. (A)  $Na_2CO_3$  or a compound decomposable to  $Na_2O$  by heating, (B)  $Bi_2O_3$  or a compound decomposable to  $Bi_2O_3$  by heating, (C)  $TiO_2$  or a compound decomposable to  $TiO_2$  by heating and (D)  $WO_3$  or a compound decomposable to  $WO_3$  by heating are mixed together in a manner to give a composition containing 3.7-4.7mol%  $Na_2CO_3$ , 24.7-26.0mol%  $Bi_2O_3$ , 63.2-65.3mol%  $TiO_2$  and 5.5-7.0mol%  $WO_3$  and the mixture is heated at about 900 deg.C in air.

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